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                 U.S. National Patent Classification
                 IFICDB, IFIPAT, and IFIUDB enhanced with new custom
NEWS 14 MAR 31
                 IPC display formats
NEWS 15
         MAR 31
                 CAS REGISTRY enhanced with additional experimental
                 spectra
NEWS 16 MAR 31
                 CA/CAplus and CASREACT patent number format for U.S.
                 applications updated
NEWS 17 MAR 31
                 LPCI now available as a replacement to LDPCI
NEWS 18 MAR 31
                 EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS 19 APR 04
                 STN AnaVist, Version 1, to be discontinued
NEWS 20 APR 15
                 WPIDS, WPINDEX, and WPIX enhanced with new
                 predefined hit display formats
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NEWS EXPRESS FEBRUARY 08 CURRENT WINDOWS VERSION IS V8.3, AND CURRENT DISCOVER FILE IS DATED 20 FEBRUARY 2008

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chain nodes : 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 ring nodes : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 chain bonds :

## Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom 21:Atom 22:Atom 23:CLASS 24:CLASS 25:CLASS 26:CLASS 27:CLASS 28:CLASS 29:CLASS 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS 35:CLASS 39:CLASS 36:CLASS 37:CLASS 38:CLASS 40:CLASS 41:CLASS 42:CLASS 43:CLASS 44:CLASS 45:CLASS 46:CLASS 47:CLASS 48:CLASS 49:CLASS 50:CLASS 51:CLASS 52:CLASS 53:CLASS 54:CLASS 55:CLASS

## L1 STRUCTURE UPLOADED

=> d 11 L1 HAS NO ANSWERS L1 STR

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=> s 11 exa

SAMPLE SEARCH INITIATED 16:32:05 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 1 TO ITERATE

100.0% PROCESSED 1 ITERATIONS 0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 1 TO 80 PROJECTED ANSWERS: 0 TO 0

L2 0 SEA EXA SAM L1

=> s 11 full

FULL SEARCH INITIATED 16:32:10 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 118 TO ITERATE

100.0% PROCESSED 118 ITERATIONS 2 ANSWERS

SEARCH TIME: 00.00.01

L3 2 SEA SSS FUL L1

=> d 13

L3 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2008 ACS on STN

RN 418764-26-8 REGISTRY

ED Entered STN: 20 May 2002

CN Oleana-1,9(11)-dien-28-oic acid, 2-cyano-3,12-dioxo-, methyl ester, compd. with methanol (1:1), monohydrate (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C32 H43 N O4 . C H4 O . H2 O

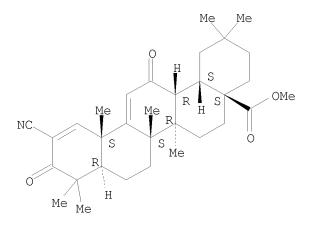
SR CA

LC STN Files: CA, CAPLUS, IMSRESEARCH

CM 1

CRN 218600-53-4 CMF C32 H43 N O4

Absolute stereochemistry. Rotation (+).



CM 2

нзс-он

\*\*PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT\*\*

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> file medline caplus wpids uspatfull

COST IN U.S. DOLLARS
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FULL ESTIMATED COST
180.36
180.57

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=> s 13

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100.0% PROCESSED 0 ITERATIONS 0 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*
BATCH \*\*COMPLETE\*\*
PROJECTED ITERATIONS: 0 TO

PROJECTED ITERATIONS: 0 TO 0 PROJECTED ANSWERS: 0 TO 0

L4 34 L3

=> s 14 and (cancer? or ?tumor?)

L5 28 L4 AND (CANCER? OR ?TUMOR?)

=> s 15 not py>2002

L6 6 L5 NOT PY>2002

=> d 16 1-6 ibib, abs, hitstr

L6 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:505732 CAPLUS

DOCUMENT NUMBER: 138:66283

TITLE: An inducible pathway for degradation of FLIP protein

sensitizes tumor cells to TRAIL-induced

apoptosis

AUTHOR(S): Kim, Youngsoo; Suh, Nanjoo; Sporn, Michael; Reed, John

C.

CORPORATE SOURCE: Burnham Institute, La Jolla, CA, 92037, USA

SOURCE: Journal of Biological Chemistry (2002), 277(25),

22320-22329

CODEN: JBCHA3; ISSN: 0021-9258

PUBLISHER: American Society for Biochemistry and Molecular

Biology

DOCUMENT TYPE: Journal LANGUAGE: English

AΒ TRAIL (Apo2 ligand) is a member of the tumor necrosis factor (TNF) family of cytokines that induces apoptosis. Because TRAIL preferentially kills tumor cells, sparing normal tissues, interest has emerged in applying this biol. factor for cancer therapy in humans. However, not all tumors respond to TRAIL, raising questions about resistance mechanisms. We demonstrate here that a variety of natural and synthetic ligands of peroxisome proliferator-activated receptor- $\gamma$  (PPAR $\gamma$ ) sensitize tumor but not normal cells to apoptosis induction by TRAIL. PPAR $\gamma$  ligands selectively reduce levels of FLIP, an apoptosis-suppressing protein that blocks early events in TRAIL/TNF family death receptor signaling. Both PPAR $\gamma$  agonists and antagonists displayed these effects, regardless of the levels of PPAR $\gamma$ expression and even in the presence of a PPARγ dominant-neq. mutant, indicating a PPARy-independent mechanism. Redns. in FLIP and sensitization to TRAIL-induced apoptosis were also not correlated with NF- $\kappa$ B, further suggesting a novel mechanism. PPAR $\gamma$  modulators induced ubiquitination and proteasome-dependent degradation of FLIP, without concomitant redns. in FLIP mRNA. The findings suggest the existence of a pharmacol. regulated novel target of this class of drugs that controls FLIP protein turnover, and raise the possibility of combining PPAR $\gamma$ modulators with TRAIL for more efficacious elimination of tumor cells through apoptosis.

IT 218600-53-4

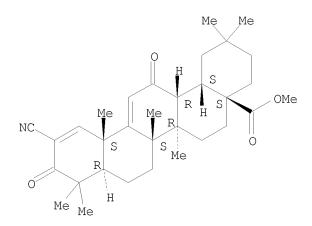
RL: BUU (Biological use, unclassified); PAC (Pharmacological activity); BIOL (Biological study); USES (Uses)

(inducible pathway for degradation of FLIP protein sensitizes tumor cells to TRAIL-induced apoptosis)

RN 218600-53-4 CAPLUS

CN Oleana-1,9(11)-dien-28-oic acid, 2-cyano-3,12-dioxo-, methyl ester (CF INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 54 THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 2002:211223 CAPLUS

DOCUMENT NUMBER: 137:109396

TITLE: A novel dicyanotriterpenoid, 2-cyano-3,12-dioxooleana-

1,9(11)-dien-28-onitrile, active at picomolar concentrations for inhibition of nitric oxide

production

AUTHOR(S): Honda, Tadashi; Honda, Yukiko; Favaloro, Frank G.;

Gribble, Gordon W.; Suh, Nanjoo; Place, Andrew E.;

Rendi, Mara H.; Sporn, Michael B.

CORPORATE SOURCE: Department of Chemistry, Dartmouth College, Hanover,

NH, 03755, USA

SOURCE: Bioorganic & Medicinal Chemistry Letters (2002),

12(7), 1027-1030

CODEN: BMCLE8; ISSN: 0960-894X

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 137:109396

New oleanane triterpenoids with various substituents at the C-17 position of 2-cyano-3,12-dioxooleana-1,9(11)-dien-28-oic acid (CDDO) and Me 2-carboxy-3,12-dioxooleana-1,9(11)-dien-28-oate were synthesized. Among them, 2-cyano-3,12-dioxooleana-1,9(11)-dien-28-onitrile shows extremely high inhibitory activity (IC50 = 1 pM level) against production of nitric oxide induced by interferon- $\gamma$  in mouse macrophages. This potency is about 100 times and 30 times more potent than CDDO and dexamethasone, resp.

IT 218600-53-4P

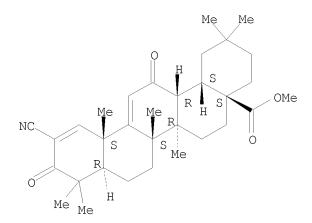
RL: BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation of dicyanotriterpenoids and their inhibitory activity against production of nitric oxide induced by interferon- $\gamma$  in mouse macrophages)

RN 218600-53-4 CAPLUS

CN Oleana-1,9(11)-dien-28-oic acid, 2-cyano-3,12-dioxo-, methyl ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:95270 CAPLUS

DOCUMENT NUMBER: 136:379616

TITLE: Identification of a novel synthetic triterpenoid,

methyl-2-cyano-3,12-dioxooleana-1,9-dien-28-oate, that

potently induces caspase-mediated apoptosis in human

lung cancer cells

AUTHOR(S): Kim, Kevin B.; Lotan, Reuben; Yue, Ping; Sporn,

Michael B.; Suh, Nanjoo; Gribble, Gordon W.; Honda, Tadashi; Wu, Gen Sheng; Hong, Waun Ki; Sun, Shi-Yong

CORPORATE SOURCE: Department of Thoracic/Head and Neck Medical Oncology,

The University of Texas M. D. Anderson Cancer Center,

Houston, TX, 77030, USA

SOURCE: Molecular Cancer Therapeutics (2002), 1(3), 177-184

CODEN: MCTOCF; ISSN: 1535-7163

PUBLISHER: American Association for Cancer Research

DOCUMENT TYPE: Journal LANGUAGE: English

Lung cancer continues to be the leading cause of cancer -related death in the United States. Therefore, new agents targeting prevention and treatment of lung cancer are urgently needed. In the present study, we demonstrate that a novel synthetic triterpenoid methyl-2-cyano-3,12-dioxooleana-1,9-dien-28-oate (CDDO-Me) is a potent inducer of apoptosis in human non-small cell lung carcinoma (NSCLC) cells. The concns. required for a 50% decrease in cell survival (IC50) ranged from 0.1 to 0.3  $\mu$ M. CDDO-Me induced rapid apoptosis and triggered a series of effects associated with apoptosis including a rapid release of cytochrome c from mitochondria, activation of procaspase-9, -7, -6, and -3, and cleavage of poly(ADP-ribose) polymerase and lamin A/C. Moreover, the caspase-3 inhibitor Z-DEVD-FMK and the pan caspase inhibitor Z-VAD-FMK  $\hbox{suppressed CDDO-Me-induced apoptosis.} \quad \hbox{These results indicate that CDDO-Me}$ induced apoptosis in human NSCLC cells via a cytochrome c-triggered caspase activation pathway. CDDO-Me did not alter the level of Bcl-2 and Bcl-xL proteins, and no correlation was found between cell sensitivity to CDDO-Me and basal Bcl-2 expression level. Furthermore, overexpression of Bcl-2 did not protect cells from CDDO-Me-induced apoptosis. These results suggest that CDDO-Me induces apoptosis in NSCLC cells irresp. of Bcl-2 expression level. In addition, no correlation was found between cell sensitivity to CDDO-Me and p53 status, suggesting that CDDO-Me induce a p53-independent apoptosis. Our results demonstrate that CDDO-Me may be a good candidate for addnl. evaluation as a potential therapeutic agent for human lung cancers and possibly other types of cancer.

IT 218600-53-4

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(identification of a novel synthetic triterpenoid, Me-2-cyano-3,12-dioxooleana-1,9-dien-28-oate, that potently induces caspase-mediated apoptosis in human lung cancer cells)

RN 218600-53-4 CAPLUS

CN Oleana-1,9(11)-dien-28-oic acid, 2-cyano-3,12-dioxo-, methyl ester (CA INDEX NAME)

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:29939 CAPLUS

DOCUMENT NUMBER: 136:318974

TITLE: Novel triterpenoid CDDO-Me is a potent inducer of

apoptosis and differentiation in acute myelogenous

leukemia

AUTHOR(S): Konopleva, Marina; Tsao, Twee; Ruvolo, Peter; Stiouf,

Irina; Estrov, Zeev; Leysath, Clinton E.; Zhao, Shourong; Harris, David; Chang, Shirong; Jackson, C. Ellen; Munsell, Mark; Suh, Nanjoo; Gribble, Gordon; Honda, Tadashi; May, W. Stratford; Sporn, Michael B.;

Andreeff, Michael

CORPORATE SOURCE: Department of Blood and Marrow Transplantation,

Section of Molecular Hematology and Therapy, The University of Texas M. D. Anderson Cancer Center,

Houston, TX, 77030, USA

SOURCE: Blood (2002), 99(1), 326-335

CODEN: BLOOAW; ISSN: 0006-4971 American Society of Hematology

DOCUMENT TYPE: Journal LANGUAGE: English

PUBLISHER:

The synthetic triterpenoid 2-cyano-3,12-dioxooleana-1,9-dien-28-oleic acid AΒ (CDDO) inhibits proliferation and induces differentiation and apoptosis in myeloid leukemia cells. This work studied the effects of the C-28 Me ester of CDDO, CDDO-Me, on cell growth and apoptosis of leukemic cell lines and primary acute myelogenous leukemia (AML). CDDO-Me decreased the viability of leukemic cell lines, including multidrug resistant (MDR)-1-overexpressing, p53null HL-60-Dox and primary AML cells, and it was 3-5-fold more active than CDDO. CDDO-Me induced a loss of mitochondrial membrane potential, induced caspase-3 cleavage, and increased annexin V binding and DNA fragmentation, suggesting the induction of apoptosis. CDDO-Me induced the proapoptotic Bax protein that precedes caspase activation. Furthermore, CDDO-Me inhibited the activation of ERK1/2, as determined by the inhibition of mitochondrial ERK1/2 phosphorylation, and it blocked Bcl-2 phosphorylation, rendering Bcl-2 less antiapoptotic. CDDO-Me induced granulo-monocytic differentiation in HL-60 cells and monocytic differentiation in primary cells. Colony formation of AML progenitors was inhibited in a concentration-dependent fashion,

whereas normal CD34+ progenitor cells were less affected. Combinations with all-trans-retinoic acid or the retinoic acid receptor-specific ligand LG100268 enhanced the effects of CDD0-Me on the cell viability and

terminal differentiation of myeloid leukemic cell lines. In conclusion, CDDO-Me is an MDR-1- and a p53-independent compound that exerts strong antiproliferative, apoptotic, and differentiating effects in myeloid leukemic cell lines and in primary AML samples when used in submicromolar concns. The differential effects of CDDO-Me on leukemic and normal progenitor cells suggest that CDDO-Me has potential as a novel compound in the treatment of hematol. malignancies.

IT 218600-53-4

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(triterpenoid CDDO-Me induction of apoptosis and differentiation in acute myelogenous leukemia)

RN 218600-53-4 CAPLUS

CN Oleana-1,9(11)-dien-28-oic acid, 2-cyano-3,12-dioxo-, methyl ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

REFERENCE COUNT: 73 THERE ARE 73 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:632697 CAPLUS

DOCUMENT NUMBER: 133:350364

TITLE: Synthetic Oleanane and Ursane Triterpenoids with

Modified Rings A and C: A Series of Highly Active Inhibitors of Nitric Oxide Production in Mouse

Macrophages

AUTHOR(S): Honda, Tadashi; Rounds, BarbieAnn V.; Bore, Lothar;

Finlay, Heather J.; Favaloro, Frank G., Jr.; Suh, Nanjoo; Wang, Yongping; Sporn, Michael B.; Gribble,

Gordon W.

CORPORATE SOURCE: Department of Chemistry, Dartmouth College Dartmouth

Medical School, Hanover, NH, 03755, USA

SOURCE: Journal of Medicinal Chemistry (2000), 43(22),

4233-4246

CODEN: JMCMAR; ISSN: 0022-2623

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 133:350364

AB New olean- and urs-1-en-3-one triterpenoids with various modified rings C have been synthesized as potential antiinflammatory and cancer chemopreventive agents and evaluated for their inhibitory activities against production of nitric oxide induced by interferon- $\gamma$  in mouse macrophages. These studies revealed that 9(11)-en-12-one and 12-en-11-one

functionalities in ring C increase the potency by about 2-10 times compared with the original 12-ene. Subsequently, novel olean- and urs-1-en-3-one derivs. with nitrile and carboxyl groups at C-2 in ring A and with 9(11)-en-12-one and 12-en-11-one functionalities in ring C were synthesized. Among them, Me 2-cyano-3, 12-dioxooleana-1,9(11)-dien-28oate, 2-cyano-3,12-dioxooleana-1,9(11)-dien-28-oic acid (CDDO) (I), and Me 2-carboxy-3,12-dioxooleana-1,9(11)-dien-28-oate were found to have extremely high potency (IC50 = 0.1 nM level). Their potency is similar to that of dexamethasone although they do not act through the glucocorticoid receptor. Overall, the combination of modified rings A and C increases the potency by about 10 000 times compared with the lead compound, 3-oxooleana-1,12-dien-28-oic acid (IC50 = 1  $\mu$ M level). The selected oleanane triterpenoid, I, was found to be a potent, multifunctional agent in various in vitro assays and to show antiinflammatory activity against thioglycollate-interferon- $\gamma$ -induced mouse peritonitis.

218600-53-4P ΤT

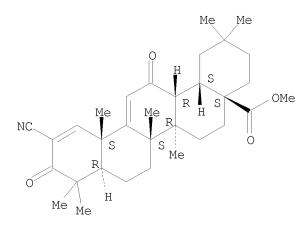
> RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)

(synthetic oleanane and ursane triterpenoids, a series of highly active inhibitors of nitric oxide production in mouse macrophages)

RN 218600-53-4 CAPLUS

Oleana-1,9(11)-dien-28-oic acid, 2-cyano-3,12-dioxo-, methyl ester (CA CN INDEX NAME)

Absolute stereochemistry. Rotation (+).



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 6 OF 6 USPATFULL on STN

2001:221178 USPATFULL ACCESSION NUMBER:

Therapeutic compounds and methods of use TITLE:

Gribble, Gordon W., Norwich, VT, United States Honda, Tadashi, Hanover, NH, United States INVENTOR(S): Sporn, Michael B., Tunbridge, VT, United States

Suh, Nanjoo, Hanover, NH, United States

Trustees of Dartmouth College, Hanover, NH, United PATENT ASSIGNEE(S):

States (U.S. corporation)

KIND DATE NUMBER PATENT INFORMATION: US 6326507 В1 20011204 APPLICATION INFO.: US 1999-335003 19990617 (9)

> DATE NUMBER

-----

PRIORITY INFORMATION: US 1998-90053P 19980619 (60)

DOCUMENT TYPE: Utility FILE SEGMENT: GRANTED

PRIMARY EXAMINER: Higel, Floyd D. ASSISTANT EXAMINER: Sackey, Ebenezer

LEGAL REPRESENTATIVE: Fulbright & Jaworski, LLP

NUMBER OF CLAIMS: 13 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 14 Drawing Figure(s); 11 Drawing Page(s)

LINE COUNT: 964

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compounds and methods useful for chemopreventative treatment of diseases

such as cancer, Alzheimer's disease, Parkinson's disease, inflammatory bowel diseases, and multiple sclerosis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 218600-53-4

(reaction; triterpenoids for treatment of cancer, neurodegenerative, diseases, and inflammatory bowel diseases)

RN 218600-53-4 USPATFULL

CN Oleana-1,9(11)-dien-28-oic acid, 2-cyano-3,12-dioxo-, methyl ester (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

=> file uspatfull COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION FULL ESTIMATED COST 47.37 227.94 DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL ENTRY SESSION CA SUBSCRIBER PRICE -4.00-4.00

FILE 'USPATFULL' ENTERED AT 16:33:42 ON 24 APR 2008
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FILE COVERS 1971 TO PATENT PUBLICATION DATE: 24 Apr 2008 (20080424/PD)
FILE LAST UPDATED: 24 Apr 2008 (20080424/ED)
HIGHEST GRANTED PATENT NUMBER: US7363658
HIGHEST APPLICATION PUBLICATION NUMBER: US2008098499
CA INDEXING IS CURRENT THROUGH 24 Apr 2008 (20080424/UPCA)
ISSUE CLASS FIELDS (/INCL) CURRENT THROUGH: 24 Apr 2008 (20080424/PD)

REVISED CLASS FIELDS (/NCL) LAST RELOADED: Feb 2008 USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Feb 2008

=> s 13

5 L3 L7

=> d 17 1-5 ibib, abs, hitstr

ANSWER 1 OF 5 USPATFULL on STN

ACCESSION NUMBER: 2005:331377 USPATFULL

Therapeutic compositions and methods of use TITLE: INVENTOR(S): Gribble, Gordon W., Norwich, VT, UNITED STATES

Honda, Tadashi, Hanover, NH, UNITED STATES

Sporn, Michael B., Tunbridge, VT, UNITED STATES

Suh, Nanjoo, Hanover, NH, UNITED STATES

Trustees of Dartmouth College (U.S. corporation) PATENT ASSIGNEE(S):

NUMBER KIND DATE \_\_\_\_\_\_ PATENT INFORMATION: US 2005288363 Α1 20051229 APPLICATION INFO.: US 2005-121316 Α1 20050503

Continuation of Ser. No. US 2003-395372, filed on 24 RELATED APPLN. INFO.:

Mar 2003, PENDING

DOCUMENT TYPE: Utility FILE SEGMENT: APPLICATION

FULBRIGHT & JAWORSKI L.L.P., 600 CONGRESS AVE., SUITE LEGAL REPRESENTATIVE:

2400, AUSTIN, TX, 78701, US

NUMBER OF CLAIMS: 15 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 11 Drawing Page(s)

LINE COUNT: 931

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AΒ Compounds and methods useful for chemopreventative treatment of diseases such as cancer, Alzheimer's disease, Parkinson's disease, inflammatory bowel diseases, and multiple sclerosis.

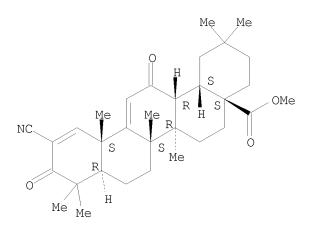
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

218600-53-4

(reaction; triterpenoids for treatment of cancer, neurodegenerative, diseases, and inflammatory bowel diseases)

RN 218600-53-4 USPATFULL

CN Oleana-1,9(11)-dien-28-oic acid, 2-cyano-3,12-dioxo-, methyl ester (CA INDEX NAME)



L7 ANSWER 2 OF 5 USPATFULL on STN

ACCESSION NUMBER: 2003:335425 USPATFULL

TITLE: Therapeutic compositions and methods of use INVENTOR(S): Gribble, Gordon W., Norwich, VT, UNITED STATES

Honda, Tadashi, Hanover, NH, UNITED STATES Sporn, Michael B., Tunbridge, VT, UNITED STATES

Suh, Nanjoo, Hanover, NH, UNITED STATES

PATENT ASSIGNEE(S): Trustees of Darmouth College (U.S. corporation)

RELATED APPLN. INFO.: Continuation of Ser. No. US 2001-927081, filed on 9 Aug 2001, GRANTED, Pat. No. US 6552075 Division of Ser. No.

US 1999-335003, filed on 17 Jun 1999, GRANTED, Pat. No.

US 6326507

NUMBER DATE

PRIORITY INFORMATION: US 1998-90053P 19980619 (60)

DOCUMENT TYPE: Utility FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: Steven L. Highlander, Esq., FULBRIGHT & JAWORSKI

L.L.P., Suite 2400, 600 Congress Avenue, Austin, TX,

78701

NUMBER OF CLAIMS: 73 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 14 Drawing Page(s)

LINE COUNT: 1146

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Compounds and methods useful for chemopreventative treatment of diseases such as cancer, Alzheimer's disease, Parkinson's disease, inflammatory

bowel diseases, and multiple sclerosis.

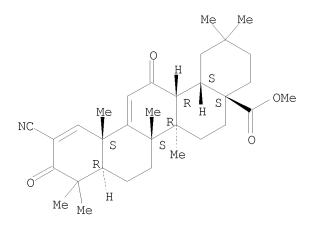
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 218600-53-4

(reaction; triterpenoids for treatment of cancer, neurodegenerative, diseases, and inflammatory bowel diseases)

RN 218600-53-4 USPATFULL

CN Oleana-1,9(11)-dien-28-oic acid, 2-cyano-3,12-dioxo-, methyl ester (CA INDEX NAME)



L7 ANSWER 3 OF 5 USPATFULL on STN

ACCESSION NUMBER: 2003:173884 USPATFULL

TITLE: CDDO-compounds and combination therapies thereof INVENTOR(S): Konopleva, Marina, Houston, TX, UNITED STATES Andreeff, Michael, Houston, TX, UNITED STATES

Andreeff, Michael, Houston, IX, UNITED STATES
Sporn, Michael B., Tunbridge, VT, UNITED STATES

PATENT ASSIGNEE(S): Board of (U.S. corporation)

NUMBER DATE

PRIORITY INFORMATION: US 2000-253673P 20001128 (60)

DOCUMENT TYPE: Utility FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: Priya D. Subramony, Fulbright & Jaworski L.L.P., 600

Congress Avenue, Suite 2400, Austin, TX, 78701

NUMBER OF CLAIMS: 79 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 35 Drawing Page(s)

LINE COUNT: 5276

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB CDDO-compounds in combination with other chemotherapeutic agents induce and potentiate cytotoxicity and apoptosis in cancer cell. One class of chemotherapeutic agents include retinoids. Cancer therapies based on these combination therapies are provided. Also provided are methods to treat graft versus host diseases using the CDDO compounds.

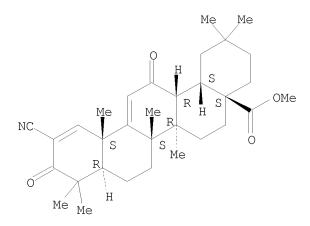
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 218600-53-4

(CDDO compds. and combinations with other chemotherapeutics for treatment of cancer and graft vs. host disease)

RN 218600-53-4 USPATFULL

CN Oleana-1,9(11)-dien-28-oic acid, 2-cyano-3,12-dioxo-, methyl ester (CA INDEX NAME)



ANSWER 4 OF 5 USPATFULL on STN

ACCESSION NUMBER: 2002:78876 USPATFULL

TITLE: Therapeutic compounds and methods of use

INVENTOR(S):

Gribble, Gordon W., Norwich, VT, UNITED STATES Honda, Tadashi, Hanover, NH, UNITED STATES Sporn, Michael B., Tunbridge, VT, UNITED STATES

Suh, Nanjoo, Hanover, NH, UNITED STATES

Trustees of Dartmouth College (U.S. corporation) PATENT ASSIGNEE(S):

NUMBER KIND DATE \_\_\_\_\_ PATENT INFORMATION: US 2002042535 Α1 20020411 US 6552075 В2 20030422 US 2001-927081 APPLICATION INFO.: Α1 20010809 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-335003, filed on 17 Jun

1999, PENDING

NUMBER DATE

PRIORITY INFORMATION: US 1998-90053P 19980619 (60)

DOCUMENT TYPE: Utility FILE SEGMENT: APPLICATION

LEGAL REPRESENTATIVE: Steven L. Highlander, FULBRIGHT & JAWORSKI L.L.P.,

Suite 2400, 600 Congress Avenue, Austin, TX, 78701

NUMBER OF CLAIMS: 73 EXEMPLARY CLAIM: 1

11 Drawing Page(s) NUMBER OF DRAWINGS:

LINE COUNT: 1150

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

Compounds and methods useful for chemopreventative treatment of diseases AB such as cancer, Alzheimer's disease, Parkinson's disease, inflammatory bowel diseases, and multiple sclerosis.

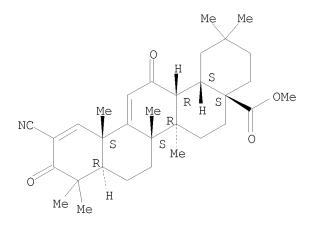
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

ΙT 218600-53-4

> (reaction; triterpenoids for treatment of cancer, neurodegenerative, diseases, and inflammatory bowel diseases)

RN 218600-53-4 USPATFULL

CN Oleana-1,9(11)-dien-28-oic acid, 2-cyano-3,12-dioxo-, methyl ester (CA INDEX NAME)



ANSWER 5 OF 5 USPATFULL on STN

ACCESSION NUMBER: 2001:221178 USPATFULL

TITLE: Therapeutic compounds and methods of use

INVENTOR(S):

Gribble, Gordon W., Norwich, VT, United States Honda, Tadashi, Hanover, NH, United States Sporn, Michael B., Tunbridge, VT, United States

Suh, Nanjoo, Hanover, NH, United States

Trustees of Dartmouth College, Hanover, NH, United PATENT ASSIGNEE(S):

States (U.S. corporation)

NUMBER KIND DATE PATENT INFORMATION: US 6326507 20011204 B1 US 1999-335003 19990617 (9) APPLICATION INFO.:

> NUMBER DATE

PRIORITY INFORMATION: US 1998-90053P 19980619 (60)

DOCUMENT TYPE: Utility FILE SEGMENT: GRANTED

PRIMARY EXAMINER: Higel, Floyd D. ASSISTANT EXAMINER: Sackey, Ebenezer

LEGAL REPRESENTATIVE: Fulbright & Jaworski, LLP

NUMBER OF CLAIMS: 13 EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 14 Drawing Figure(s); 11 Drawing Page(s)

LINE COUNT: 964

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

Compounds and methods useful for chemopreventative treatment of diseases AΒ such as cancer, Alzheimer's disease, Parkinson's disease, inflammatory bowel diseases, and multiple sclerosis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

IT 218600-53-4

(reaction; triterpenoids for treatment of cancer, neurodegenerative, diseases, and inflammatory bowel diseases)

RN 218600-53-4 USPATFULL

CN Oleana-1,9(11)-dien-28-oic acid, 2-cyano-3,12-dioxo-, methyl ester (CA INDEX NAME)

=> d his

(FILE 'HOME' ENTERED AT 16:31:27 ON 24 APR 2008)

FILE 'REGISTRY' ENTERED AT 16:31:43 ON 24 APR 2008

L1 STRUCTURE UPLOADED

L2 0 S L1 EXA L3 2 S L1 FULL

FILE 'MEDLINE, CAPLUS, WPIDS, USPATFULL' ENTERED AT 16:32:31 ON 24 APR 2008

L4 34 S L3

L5 28 S L4 AND (CANCER? OR ?TUMOR?)

L6 6 S L5 NOT PY>2002

FILE 'USPATFULL' ENTERED AT 16:33:42 ON 24 APR 2008

L7 5 S L3

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---Logging off of STN---

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Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	31.79	259.73
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-4.00

STN INTERNATIONAL LOGOFF AT 16:34:31 ON 24 APR 2008